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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,724	07/26/2006	Ralf Steuerwald	STEU3002/FJD	6840

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EXAMINER	
ALLI, IYABO	
ART UNIT	**PAPER NUMBER**
2877	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,724	STEUERWALD ET AL.	
	Examiner	Art Unit	
	IYABO S. ALLI	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/11/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim **13** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The purpose for arranging a measuring unit on an inclined plane is not supported or enabled in the specification; therefor the reason for the support and justification for this limitation is unclear to the examiner.

Claim Rejections - 35 USC § 103

3. Claims **1-5, 8-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Durham et al.** (5,272,345). ('**Durham**')

Durham discloses a Calibration method and apparatus for measuring the concentration of components in a fluid comprising:

As to claim 1, Durham discloses an apparatus for the photometric measurement of concentration of at least one chemical substance in a solution, wherein a cuvette **22** is provided, for containing the solution (Column 6, lines 58-64 and Fig. 1),

wherein the cuvette **22** is transmissive for electromagnetic radiation **17**, at least in predetermined regions, wherein a transmitting unit **12** is provided (Fig. 1), which produces electromagnetic radiation **17** in at least two wavelength regions and radiates into the cuvette **22** (Column 5, lines 36-39), and wherein the electromagnetic radiation in the two wavelength regions takes the same path through the cuvette and through the solution (Column 5, lines 36-39 and Fig. 1), wherein at least one detector unit **20** is provided, which is so arranged that it receives the electromagnetic radiation **17** in the at least two wavelength ranges following its passage through the solution (Column 6, lines 49-52 and Fig. 1), and wherein a control/evaluation unit **36** is provided, which determines the concentration of the chemical substance in the solution on the basis of the electromagnetic radiation **17** detected in the two wavelength regions (Column 7, lines 16-18 and Fig. 1).

Durham *fails to disclose* the electromagnetic radiation in a first wavelength range serves for measuring purposes and wherein the electromagnetic radiation in a second wavelength region is used for reference purposes,

However **Durham** does disclose *by subtracting reference amounts determined through measurements made with a fluid, which transmits substantially all radiation in the selected wavelength range in the chamber and/or through measurements made with the radiation source turned off or substantially blocked. In addition, the calculator determines the concentration of a component of the fluid by performing a peak-to-trough measurement using the adjusted values* (Column 4, lines 3-11).

It would have been obvious to one skilled in the art at the time of the invention to use the technique of **Durham** to determine the correct concentration of the measured fluid sample using the compared wavelengths as it is faster to determine the difference in intensity of input to output.

As to claim 2, Durham discloses all of the claimed limitations as applied to Claim 1 above **in addition to** essentially oppositely lying surfaces of the cuvette **22** transmissive for the electromagnetic radiation **17** radiated from the transmitting unit **12** (Fig. 1).

As to claim 3, Durham discloses all of the claimed limitations as applied to Claim 2 above **in addition to** the oppositely lying surfaces are ends or lateral surfaces of a tubular cuvette **22** (Fig. 1).

As to claim 4, Durham discloses all of the claimed limitations as applied to Claims 2 or 3 above **in addition to** the transmitting unit **12** and/or the receiving unit **20** is/are arranged in the region of the ends or the lateral surfaces of the cuvette **22** (Column 6, lines 49-50 and Fig. 1).

As to claim 5, Durham discloses all of the claimed limitations as applied to Claims 1 or 4 above **in addition to** the transmitting unit **12** is a multi-color, for instance a two-color, light emitting diode (Column 5, lines 35-39).

As to claim 8, Durham discloses all of the claimed limitations as applied to Claims 1 or 7 above **in addition to** the inlet **30** and the outlet **32** are arranged in extensions of the longitudinal axis of the cuvette **22**, or wherein the inlet **30** and the

outlet **32** of the cuvette **22** are arranged essentially at right angles to the longitudinal axis of the cuvette **22** (Fig. 1).

As to claim 9, Durham discloses all of the claimed limitations as applied to Claims 1 or 7 above **in addition to** the inlet **30** is arranged at a first predetermined angle to the longitudinal axis of the cuvette **22** and wherein the outlet **32** is arranged at a second predetermined angle to the longitudinal axis of the cuvette **22** (Fig. 1).

As to claim 10, Durham discloses all of the claimed limitations as applied to Claims 1 or 8 above **in addition to** wherein at least the cuvette **22** with the inlet **30** and the outlet **32**, and, optionally, the transmitting unit **12** and the detector unit **20**, are arranged as an integral measuring unit (Column 7, lines 16-23 and Fig. 1).

As to claim 11, wherein the cuvette **22** with the inlet **30** and the outlet **32**, the transmitting unit and the detector unit lie essentially in one plane.

Although **Durham** does not disclose the above components lying on one plane, it would have been obvious to one killed in the art at the time of the invention to substitute placing the elements on one plane with placing the components on a different plane as conforming to the preference of the user to eliminate crowding of components.

As to claim 12, Durham discloses all of the claimed limitations as applied to Claims 7 or 8 above **in addition to** wherein the measuring unit in the measuring position is inclined in such a manner relative to the horizontal plane, that the outlet of the measuring unit lies higher than the inlet of the measuring unit (Fig. 1).

As to claim 13, wherein the plane, in which the measuring unit is arranged, is inclined by an angle between 5° and 45° relative to the horizontal plane.

Although **Durham** does not disclose the angle relative to the horizontal plane that the measuring unit is placed, it would have been obvious to place the measuring unit at any desirable angle to improve spacing of components used in the measurement system.

As to claim 14, Durham discloses all of the claimed limitations as applied to Claim 1 above **in addition to** wherein at least one heating element is provided, via which the temperature of the cuvette **22** is variable (Column 6, lines 64-67).

4. Claim **7** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Durham** (5,272,345) as applied to claims above, and further in view of **Kawamura et al.** (6,046,804). ('**Durham**' and '**Kawamura**')

As to claim 7, Durham discloses all of the claimed limitations as applied to Claims 1 or 8 above **except for** an inlet is provided in a first end region of the cuvette, wherein an outlet is provided in a second end region of the cuvette, and wherein the inner diameter of the outlet is greater than the inner diameter of the inlet.

However **Kawamura** teaches an inlet **31** is provided in a first end region of the cuvette, wherein an outlet **32** is provided in a second end region of the cuvette **30**, and wherein the inner diameter of the outlet **32** is greater than the inner diameter of the inlet **31** (Column 12, lines 35-43).

It would have been obvious to one skilled in the art at the time of the invention to include the diameter size of the inlet of with the measuring system of **Durham** in order to reduce the amount of air bubbles that may affect he measurement results.

Allowable Subject Matter

5. Claim **6** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 6, the prior art of record, taken alone or in combination, fails to disclose or render obvious an aperture is provided between the transmitting unit and/or the detector unit, on the one hand, and the surface transmissive for the electromagnetic radiation, e.g. end or lateral surface of the cuvette, as clearly shown in combination with the rest of the limitations of the claim.

Reference **5,272,345** discloses the measurement of at least one component in a fluid.

However, it fails to disclose the limitations cited above in claim 6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IYABO S. ALLI whose telephone number is 571-270-1331. The examiner can normally be reached on M-Thurs. 7:30a- 5pm, 1st F-OFF & 2nd F- 7:30a-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IYABO S. ALLI
Examiner
Art Unit 2877
August 30, 2007

Gregory J. Toatley, Jr.
Supervisory Patent Examiner